National Transportation Safety Board

Drug Use Trends in Aviation: Assessing the Risk of Pilot Impairment

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Impairment in Transportation

- Occurs from a variety of factors
- Medical and psychiatric conditions
- Alcohol
- Drugs
  - Over-the-counter
  - Prescription
  - Illicit

NTSB Interest in Impairment

- Over 50 recommendations regarding operator impairment in all modes
- 1992 Safety Study, *Alcohol and Other Drug Involvement in Fatal General Aviation Accidents, 1983 Through 1988*
- 2012 public forum on substance impaired driving
- NTSB Most Wanted List

Determining Impairment

- Alcohol is most studied impairing substance in transportation safety
  - Agreement among the medical, legal, and public health communities
- Most drugs not similarly studied
- Limited ability to conclude impairment from toxicology testing

Postmortem Alcohol Analysis

- Toxicology is difficult to interpret
- Produced in postmortem tissues
- Most toxicology findings of alcohol (ethanol) were due to postmortem production
- Excluded from this study

Study Objectives

- Initial step
- Examine among fatally injured pilots
  - Prevalence of positive toxicology tests
  - Trends in positive toxicology tests
  - Comparison to the general population
  - Differences between categories of pilots

Why the Focus on Pilots?

- Fatally injured pilots
  - More than 1,300 drugs and metabolites
- DOT mandatory testing requirements
  - Urine specimen
  - 11 drugs
- Best opportunity to study trends in drug use by transportation operators

Data Sources: 1990-2012

- Bioaeronautical Research Laboratory at Federal Aviation Administration (FAA) Civil Aerospace Medical Institute (CAMI)
  - Toxicology test results database
- NTSB's Aviation Accident Database

Safety Issues

- Enhance drug information for pilots
- Collect information to evaluate safety of pilots without medical certification
- Close a gap in FAA policy on marijuana use

Safety Issues (Cont.)

- Enhance communication between health care providers and patients about transportation safety risks
- Further research on relationship between drug use and accident risk

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Presentation Agenda

- Impairment, drug categories, and study methodology
- Study results
- Safety issues

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